DRIFTLESS AREA NATIONAL WILDLIFE REFUGE

McGregor, Iowa

ANNUAL NARRATIVE REPORT

Calendar Year 1990

U.S. Department of the Interior
Fish and Wildlife Service
National Wildlife Refuge System

REVIEW AND APPROVALS

DRIFTLESS AREA NATIONAL WILDLIFE REFUGE

McGregor, Iowa

ANNUAL NARRATIVE REPORT

Calendar Year 1990

John R Lyons 3-20-91
District Manager Date

James R Lennartson 3/27/91
Refuge Manager Date

Acting John Fridell 4/10/91
Refuge Supervisor Review Date

Richard D. Schultz 4/11/91
Regional Office Approval Date

INTRODUCTION

The Driftless Area National Wildlife Refuge was established in October 1989 and is still in it's early years of development and management. Presently, 282 acres have been purchased in Clayton and Dubuque counties of northeast Iowa. Eventually, the Refuge may include tracts of land reaching into southwest Wisconsin, northwest Illinois, and possibly southeast Minnesota.

The Refuge, consisting of widely scattered tracts of land, was established to protect the federally endangered Iowa Pleistocene snail (Discus macclintocki) and the federally threatened northern monkshood plant (Aconitum noveboracense). These two species, along with other rare snails and plants, are found almost exclusively on cool, moist, shaded cliffs, many of which are classed as algific talus slopes.

Algific talus slopes are unique because of the flowage of cold air and/or water from the bedrock. Under a layer of loose talus is a series of cracks and fissures which connect to one or more sinkholes on adjacent uplands. In winter, water freezes within the cracks. This underground ice remains into the following summer, cooling the subterranean air and water which flows from the talus. This produces a cool and humid microclimate which supports flora and fauna very different from areas just a few feet away. Many of these rare species are glacial relicts or are disjunct from their normal range.

The algific slopes may range in size from a few square feet to narrow strips a half-mile long and are generally adjacent to a creek or river. The sinkhole(s) may be located up to one-half mile from the slope.

Threats to the rare species and fragile habitats include logging, quarrying, livestock grazing and trampling, rock falls, pesticide runoff or drift, and human foot traffic.

The 282 acres purchased to date include approximately 166 acres of wooded hillsides, 63 acres of old fields and pastures, and 52 acres of land farmed under a Special Use Permit in 1990.

Currently, all administration and management is conducted by staff of the Upper Mississippi River National Wildlife and Fish Refuge, McGregor District. Eventually, the Refuge will be operated under a separate budget with the possibility of a maintenance/office facility and staff located in an area more central to the Driftless Area National Wildlife Refuge units.

INTRODUCTION

G. WILDLIFE

1.	Wildlife Diversity	4
2	Endangered and or Threatened Species	4
3.	Waterfowl	NTR
4.	Marsh and Water Birds	NTR
5.	Shorebirds, Gulls, Terns and Allied Species	NTR
6.	Raptors	5
7.	Other Migratory Birds	NTR
8.	Game Mammals	5
9.	Marine Mammals	NTR
10.	Other Resident Wildlife	5
11.	Fisheries Resources	5
12.	Wildlife Propagation and Stocking	NTR
13.	Surplus Animal Disposal	NTR
14.	Scientific Collections	NTR
15.	Animal Control	NTR
16.	Marking and Banding	NTR
17.	Disease Prevention and Control	NTR

H. PUBLIC USE

1.	General	5
2.	Outdoor Classrooms - Students	NTR
3.	Outdoor Classrooms - Teachers	NTR
4.	Interpretive Foot Trails	NTR
5.	Interpretive Tour Routes	NTR
6.	Interpretive Exhibits/Demonstrations	NTR
7.	Other Interpretive Programs	NTR
8.	Hunting	NTR
9.	Fishing	NTR
10.	Trapping	NTR
11.	Wildlife Observation	NTR
12.	Other Wildlife Oriented Recreation	NTR
13.	Camping	NTR
14.	Picnicking	NTR
15.	Off-Road Vehicling	NTR
16.	Other Non-Wildlife Oriented Recreation	NTR
17.	Law Enforcement	5
18.	Cooperating Associations	6
19.	Concessions	NTR

I. EQUIPMENT AND FACILITIES

1.	New Construction	6
2.	Rehabilitation	NTR
3.	Major Maintenance	NTR
4.	Equipment Utilization and Replacement	NTR
5.	Communications Systems	NTR
6.	Computer Systems	NTR
7.	Energy Conservation	NTR
8.	Other	NTR

J. OTHER ITEMS

1.	Cooperative Programs	NTR
2.	Other Economic Uses	NTR
3.	Items of Interest	NTR
4.	Credits	6

A. HIGHLIGHTS

Essentially, 1990 was the first year of operation for the Refuge. Highlights for the year include:

Fee title acquisition of four tracts. (Section C.1.)

Preparation of a refuge management prospectus. (Section D.2.)

Two fences were constructed to protect the fragile slopes against cattle trespass. (Section I.1.)

B. CLIMATIC CONDITIONS

Heavy rainfall on several occasions caused high creek levels to wash out fences, requiring repair. No damage was done to the algific talus slopes.

Table 1. Precipitation and Temperature Data - 1990*

	Temperature (°F)				Precipitation (inches)		
Month	Min.	Max.	Avg.	Departure	Rainfall	Departure	Snow
Jan.	6	51	24.6	+9.4	.88	+0.18	17.0
Feb.	- 4	58	23.5	+2.8	.38	-0.46	5.5
March	15	74	34.7	+1.5	3.37	+1.30	----
April	18	84	41.8	-5.2	3.67	+0.67	----
May	29	77	50.9	-7.1	4.83	+1.42	----
June	37	87	63.5	-3.6	5.48	+1.14	----
July	50	93	66.0	-5.7	2.02	-2.11	----
Aug.	47	91	62.7	-6.3	5.87	+1.42	----
Sept.	35	91	57.2	-3.8	.68	-2.87	----
Oct.	24	83	43.2	-6.8	2.02	-0.37	----
Nov.	18	70	36.2	+0.7	1.44	-0.72	2.0
Dec.	-19	50	18.2	-3-3	2.57	+1.31	24.5
					33.21	+0.91	49.0

* Official weather station at the University of Wisconsin Experimental Farm, Lancaster, Wisconsin, located 12 miles northeast of Cassville, Wisconsin.

C. LAND ACQUISITION

1. Fee Title

Two tracts of land were purchased in late 1989 in Clayton County, Iowa. These first two units of the Refuge, 154 acres, were acquired for $127,200.

Algific slope form may range from a cliff to...

9/90 BL

a wooded hillside.

9/90 BL

Four additional tracts, totalling 128 acres were acquired in 1990 at a cost of $103,298. They range in size from 8 to 52 acres. Three of these tracts are located in Clayton County, Iowa and one in Dubuque County, Iowa. One tract was purchased from the Iowa Chapter of The Nature Conservancy.

The six tracts form four separate management units, ranging in size from 8 to 208 acres. The units contain from one to three algific slopes, for a combined total of seven.

Thirty-four sites have been prioritized for acquisition, and purchases will continue as funding and willing sellers allow.

D. PLANNING

1. Master Plan

A master plan has not yet been prepared as the Refuge is still in early stages of development, acquisition, and management.

2. Management Plan

Biological Technician (Bio-Tech) Bruce Luebke spent considerable time and effort compiling information and writing a refuge management prospectus. Luebke consulted reference materials, National Recovery Plans, Fish and Wildlife Service staff, and The Nature Conservancy to gather the necessary information.

A draft management prospectus was reviewed by staffs of the Upper Mississippi River National Wildlife and Fish Refuge, the Regional Office, The Nature Conservancy, Iowa DNR and the University of Washington. Overall, very favorable comments were received, requiring only minor changes of the draft.

4. Compliance with Environmental and Cultural Resource Mandates

Prior to the acquisition of each Driftless tract, the Iowa Bureau of Historic Preservation was consulted to insure protection of cultural resources. No cultural resources are known to exist on the Refuge.

5. Research and Investigation

Margaret A. Kuchenreuther, University of Wisconsin, Madison in her work, Population Biology of Northern Monkshood in Iowa studied several areas, including one of the refuge units.

Her objectives are:

1) To characterize the population structure and dynamics of Iowa monkshood populations.

2) To compare populations occurring on different bedrock substrates.

3) To compare sunny versus shaded microsites within a population.

4) To collect data for use in analyzing genetic differentiation of monkshood populations within and among populations and river drainage systems.

Final research results will be reported in Kuchenreuther's Ph.d. dissertation. Completion is expected in 1991.

Refuge staff established permanent photo points for future comparisons of slope condition and vegetative cover.

E. ADMINISTRATION

1. Personnel

Temporary Bio-Tech Bruce Luebke was hired on June 17. His primary responsibility has been the Driftless Area National Wildlife Refuge but his activities have included many other duties with the Upper Mississippi River National Wildlfie and Fish Refuge, McGregor District. Bruce has been assisted by other District staff as needed.

The possibility of hiring a permanent full-time employee for the Driftless Area NWR is being investigated.

5. Funding

Operation and management costs are presently included in the budget of the Upper Mississippi River National Wildlife and Fish Refuge, McGregor District. Additional funds were received from the Division of Endangered Species in 1990. These were specifically earmarked for fencing.

6. Safety

No accidents or other related events occurred on the Refuge.

8. Other Items

The Refuge was visited by Regional Office staff as part of the McGregor District operations inspection. Favorable remarks and guidance were received regarding operations and progress.

F. HABITAT MANAGEMENT

1. General

Except for cooperative farming on the largest refuge unit, no habitat management was initiated in 1990. Most of the units are small

and do not lend themselves to specific management activities. The primary management will be to preserve and protect the areas so that the slopes, sinkholes, and protective buffer zones are not disturbed.

On some of the larger units, it may be possible to manage the woodlands and former agricultural lands to benefit a variety of wildlife species in addition to the basic protection afforded threatened and endangered species.

4. Croplands

On the largest refuge unit, 52 acres were planted to corn under a cooperative farming agreement. Under the agreement, 33 percent of the corn was left unpicked as food and cover for wildlife. These fields are far removed from the slopes and pose no threat to the rare species. Plans were made to remove these fields from production and plant them to grasses in future years when atrazine carryover problems are past.

The Refuge contains 62 acres of old fields and pastures. Some of these areas will be left idle, allowing succession to proceed and others will be maintained in grasses.

6. Other Habitats

The relatively small and fragile algific talus slopes are the primary feature of the Refuge. Management centers around the preservation of these rare habitats and species. The slope areas are being maintained in their present, natural state.

10. Pest Control

Leafy spurge and buckthorn are found on one of the units. Plans are being made for the control of these problem plants. Chemical control may be utilized on those areas well away from the talus slopes and sinkholes where there is no possibility of damage to rare species.

G. WILDLIFE

1. Wildlife Diversity

Protection of the rare species found on the talus slopes has priority over other species management. As opportunities arise, management for other species may occur when it would not harm the rare species.

2. Endangered and threatened species

The Iowa Pleistocene snail and/or northern monkshood occur on each of the refuge units. In 1986, pre-acquisition estimates revealed 7,300 monkshood plants and 3,500 Iowa Pleistocene snails on the present refuge slopes. Current population numbers are unknown, but no apparent damage or change has been noted on these slopes since 1986. Additional population monitoring is expected to be conducted in the future as a

An Iowa Pleistocene snail to the left of the quarter.
10/90 BL

The sharply toothed leaves are those of the northern monkshood - post flowering.
8/90 BL

House and outbuildings acquired as part of a refuge unit. The buildings and adjacent fields are in excess of slope protection needs but were purchased because the former owner would only sell the farm in its entirety.

8/90 BL

routine part of management.

6. Raptors

Red-tailed hawks are frequently seen on some units. It is believed that they nest on the Refuge along with other common raptor species such as American kestrels, great horned owls, and screech owls.

8. Game Mammals

White-tailed deer are frequently observed on the Refuge and the populations appear healthy. Other game mammals identified include gray and fox squirrels, cottontail rabbits, raccoon, and beaver.

10. Other Resident Wildlife

Ruffed grouse and wild turkeys can be found on many of the units. In late June, a turkey was flushed from a nest containing 11 eggs. The nest was checked 10 days later and all sign of the nest had been washed away by high water accompanying heavy rains. It could not be determined if the eggs had hatched prior to the flooding.

Groups of up to 12 turkeys have been seen on the Refuge on several occasions.

11. Fisheries Resources

Several of the units are adjacent to or contain trout streams. Fishing activity appears light and should have minimal effect on the Refuge.

H. PUBLIC USE

1. General

Protection of the slopes and rare species has priority over public use interests. Because the algific talus slopes generally occupy a small percentage of the land area in each unit, compatible forms of public use will be permitted. These activities include hunting, trapping, hiking, photography, bird watching and cross-county skiing. Public use will not be promoted and the locations of the units will not be advertised.

Special provisions will not be made for public access. Roads, trails and parking areas will not be created. In some cases, access can be gained only by crossing adjacent private lands. The Refuge received only a small amount of public use in 1990, most of that during the fall hunting season. No problems were noted.

17. Law Enforcement

Refuge units are periodically monitored for signs of disturbance. No problems were encountered during 1990.

Private contractor installing a fence on refuge boundary.
Protection from grazing is a major management tool.
9/90 BL

The finished product.

10/90 BL

18. Cooperating Associations

The Nature Conservancy has performed a significant role in the identification, preservation, and documentation of algific talus slopes and the associated rare species. Because of this role, the Fish and Wildlife Service and The Nature Conservancy have entered into a five year agreement whereby both parties will work together in the inventory, monitoring, protection, management, and research of these unique habitats.

I. NEW CONSTRUCTION

1. Approximately one mile of fence was installed on two boundaries of the largest unit. This was done by a private contractor at a cost of $5,758. The fences will serve to establish boundaries, prevent cattle and vehicle trespass, and satisfy responsibilities with adjacent landowners.

J. OTHER ITEMS

4. Credits

Bruce Luebke: Writing and assembly.
Anthony Batya: Editing.
John Lyons: Editing
Dixie Palmer: Typing on IBM computer.

All are staff of the Upper Mississippi River National Wildlife and Fish Refuge, McGregor District.

Can you find the algific talus slope in this picture? It's the horizontal break in the tree canopy half-way up the hill. Notice the power line right-of-way which damaged the slope.

8/90 BL